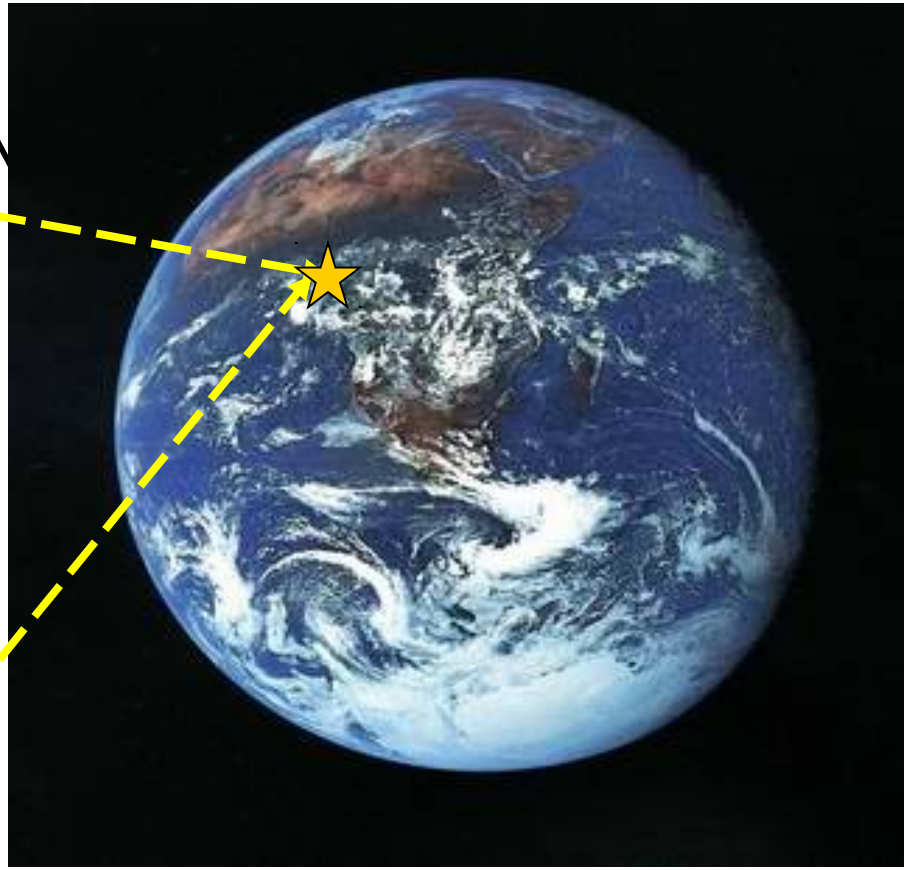
and Innovations in Diabetes Disease Management

Naval Hospital Bremerton

Patricia Taylor LCDR NC USN



Purpose

- Examine components & limitations of existing disease management models
- Introduce the practice of creating a “medical home” in primary care.
- Outline disease management strategies based on elements of the Chronic Care Model.
- Demonstrate the clinical impact of a Navy Hospital’s diabetes disease management program.

Challenges for Patients with Chronic Illne

- Increased health vulnerability.
- Simple problem can rapidly exacerbate condition.
- Self-care becomes more disproportionately complex with age.
- Difficulty navigating through a complex MHS.

Benefits to Implementing Disease Management

- Supports self-care/management
- Strengthens primary care services
- Enhances provider/patient relationships
- Manages vulnerable patients by anticipating needs.

Chronic Disease Management Challenges for Primary Care

- Complex clinical loads
- Diverse Medical Models for patient care delivery
- Budget constraints
- Lack of strong provider buy-in and leadership / incentives
- Operational issues

Chronic Disease Management

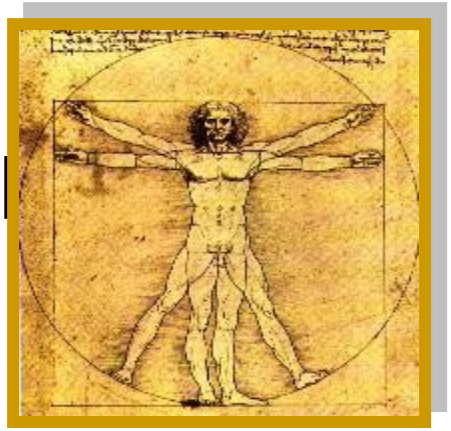
1. **PROBLEM:** *Chronic Illness CPGs require more time than PCMs have available for patient care overall.

2. **SOLUTION:** *Streamline local CPG version and incorporate alternative delivery of care system to meet standards of care.

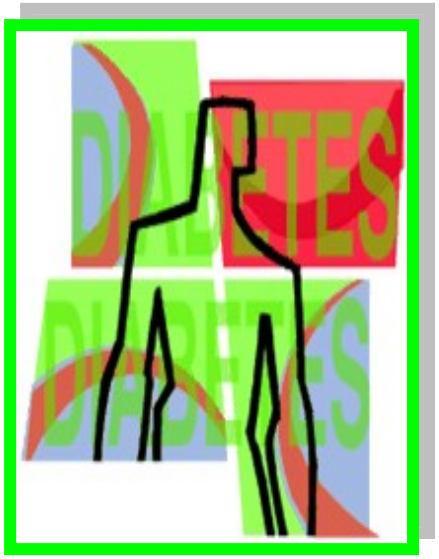
* Annals of Family Medicine: “Is There Time for Management of Patients With Chronic Diseases in Primary Care?” Truls, et al, 2005.

Disease Management Models

1. **Carved-I**



2. **Carved-Out**



Limitations of Carved-Out Model

- Weakens Primary Care capabilities.
- Clinic staff are not involved.
- Fragmented care
- Focused on availability of Single individual.

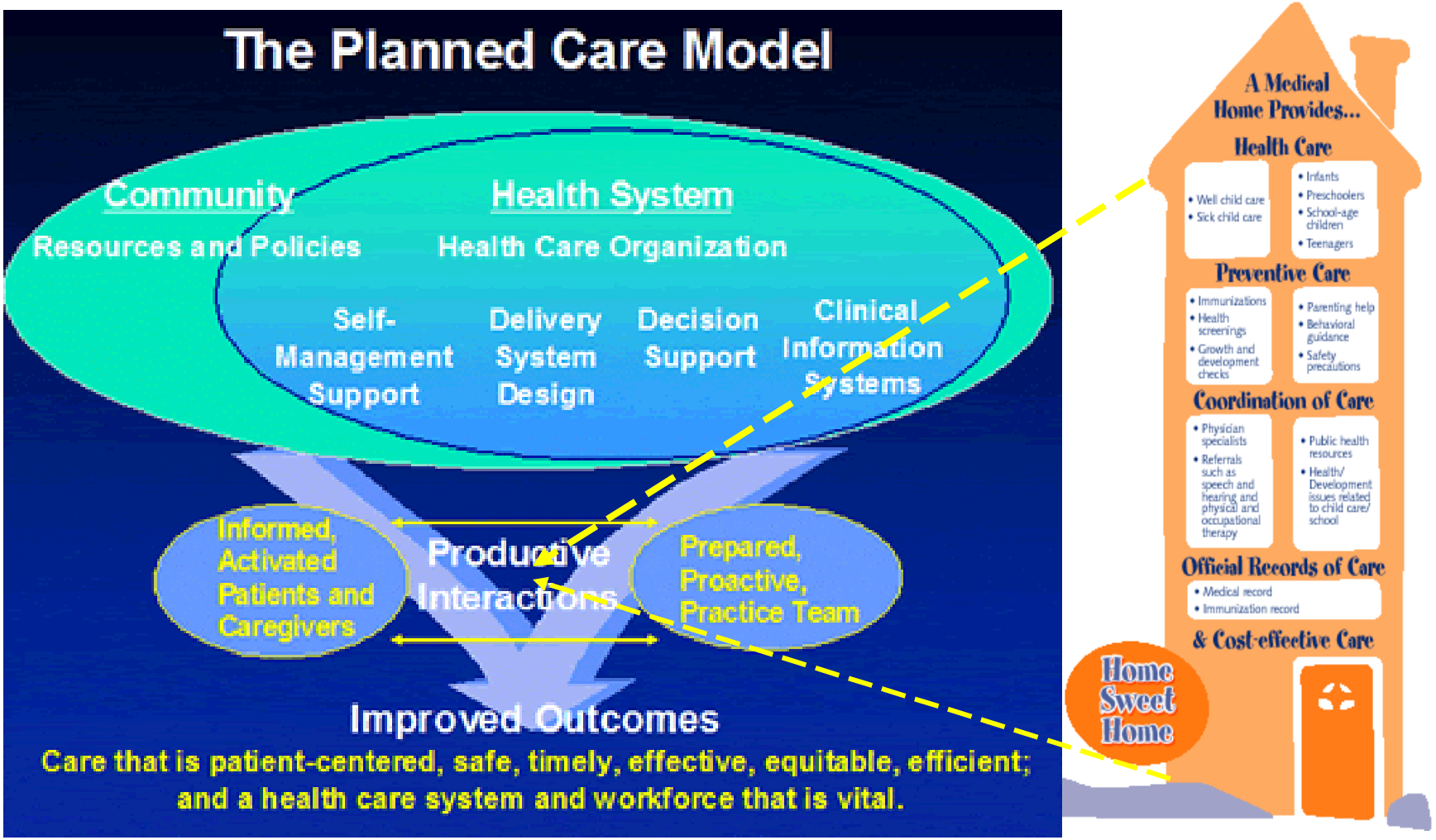
Challenges of Implementing Carved-in Models

- Needs strong Provider buy-in.
- Needs intensive and ongoing RN education program.
- Implementing Medical Home concept.

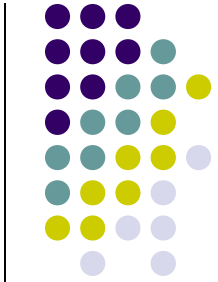
“Medical Home” in Primary Care?

“focal point through which patients receive their coordinated evidence-based care - education, acute, chronic, and timely-preventive care. Accountable, efficient, comprehensive, integrated, family-centered, safe, and satisfying to both patients and their physicians.”

Integrating elements of the Chronic Care Model and "Medical Home"



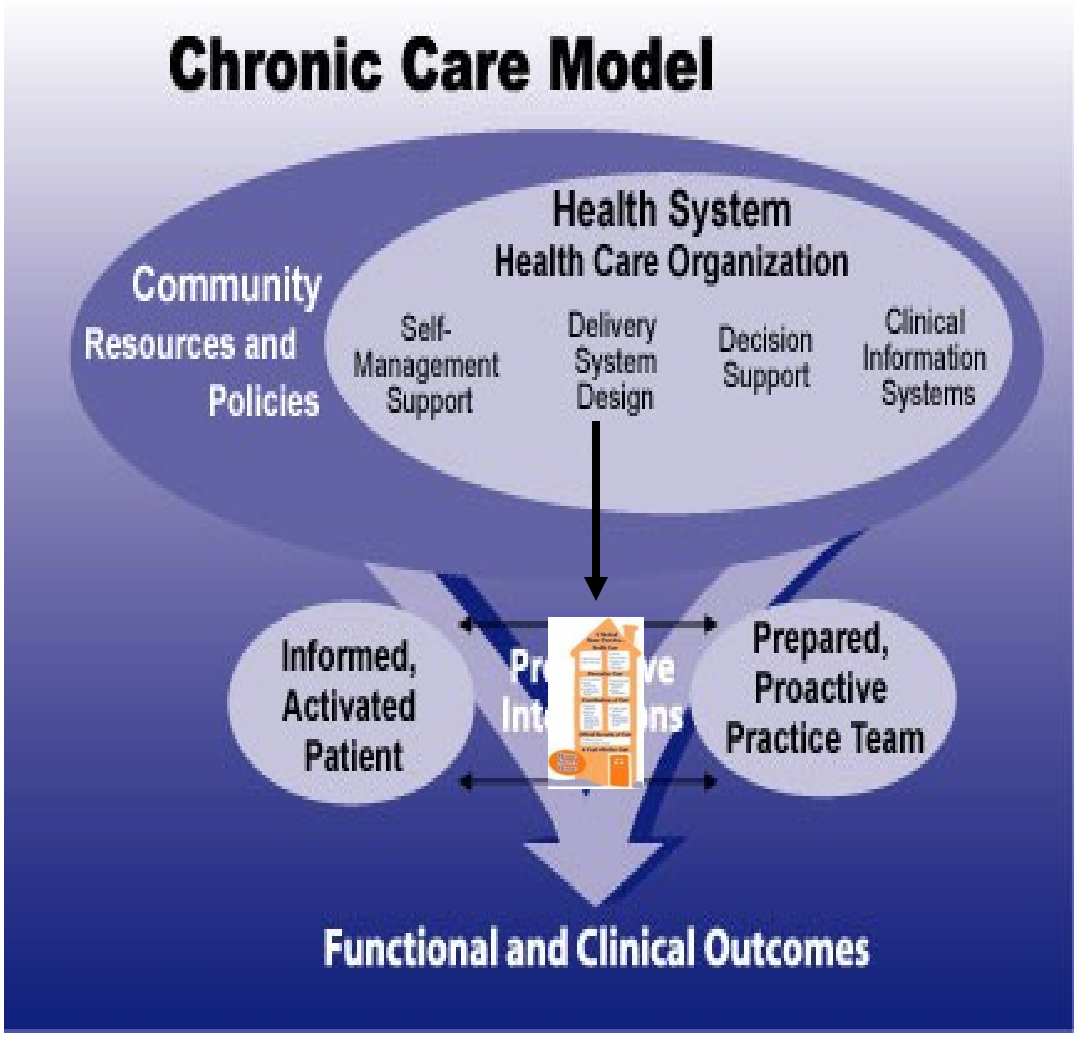
Integrating elements of the Chronic Care Model and "Medical Home"



- Patient Self-Management Education
- Staff Education and Training on Adult Learning Theory, Health Belief Model and Motivational Interviewing techniques
- Intensive Staff Education
- Health care delivery system process changes

Chronic Care Model Elements

- **Delivery System Design (Medical Home)**
- **Self-Management Education**
- **Decision Support**
- **Clinical Info System (AHLTA, PHN and ICDB)**



Adult Learning Theories Principles

- Autonomous and Self-Directed
- New knowledge is related to life experience & is relevant and practical
- Goal-oriented
- Respect and don’t judge

Health Beliefs Model:

I. **Based on the understanding that a person will take a health-related action if there is:**

- Perceived Susceptibility
- Perceived Severity
- Perceived Benefits
- Perceived Barriers can be overcome
- Perceived Self-Efficacy
- Cues for Action

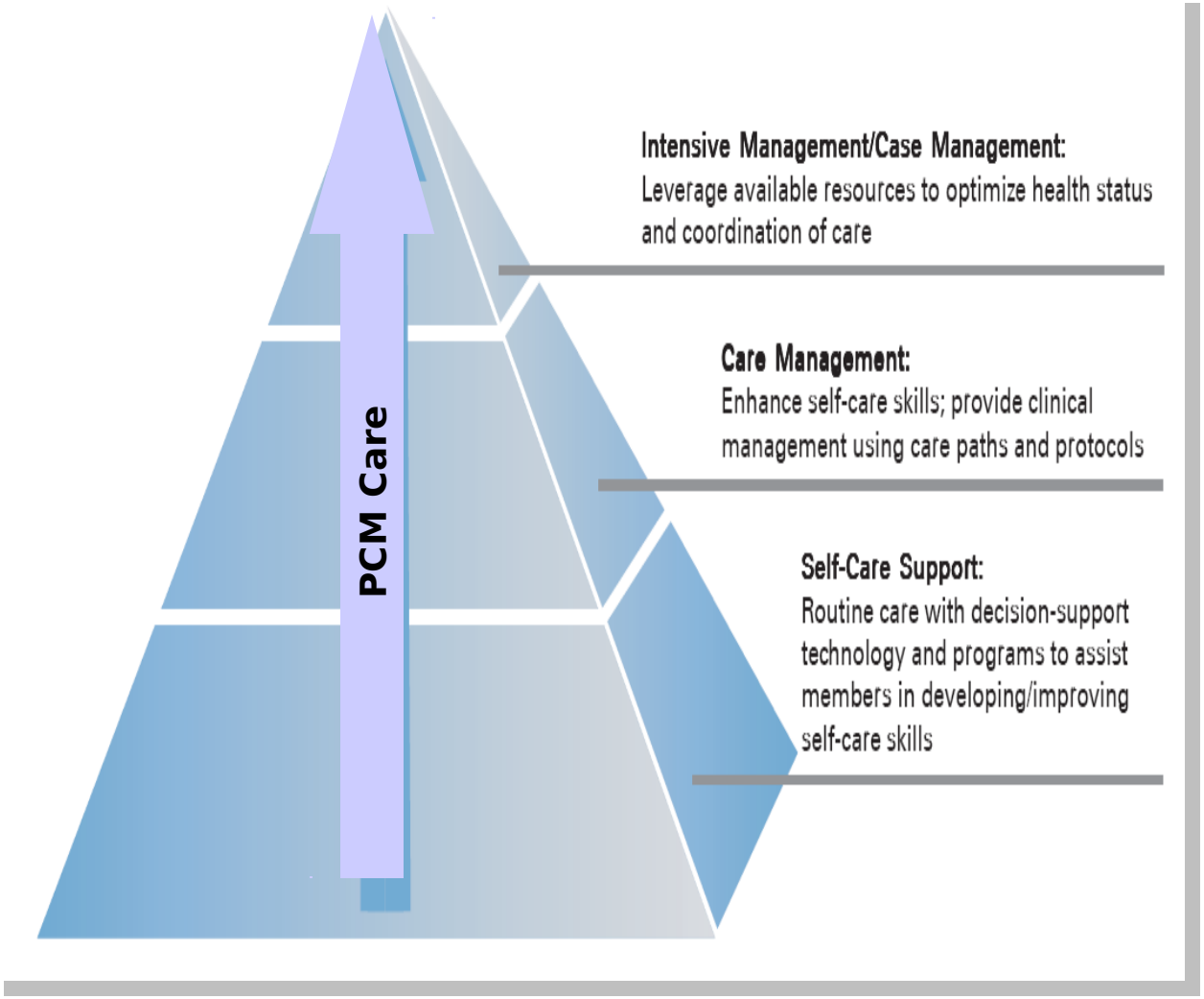
Motivational Interviewing Techniques for Behavioral Change:

- Patient-centered counseling style for eliciting behavior change by helping clients to explore and resolve ambivalence.

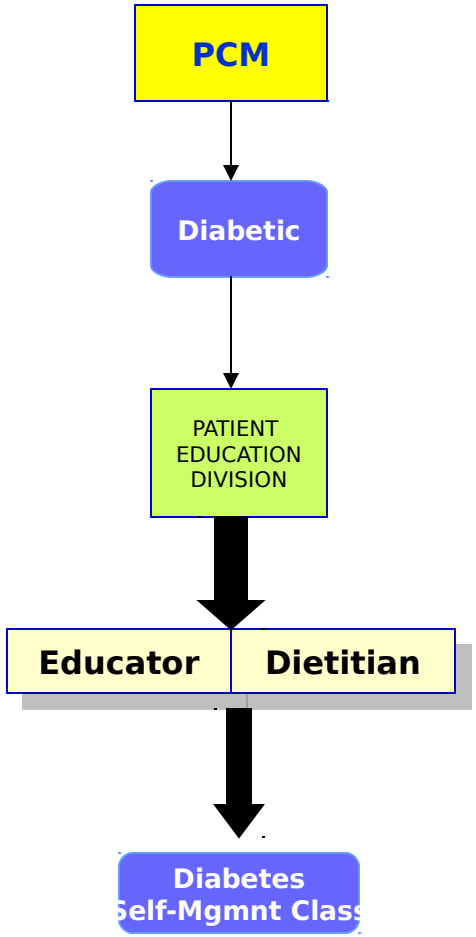
Sample Motivational Interviewing Techniques for Behavioral Change:

- Understand the patient’s perspective of diabetes via reflective listening.
- Express acceptance and affirmation rather than judgment.
- Reinforce patient's self motivational statements.
- Do not jump ahead of patient’s readiness for change.

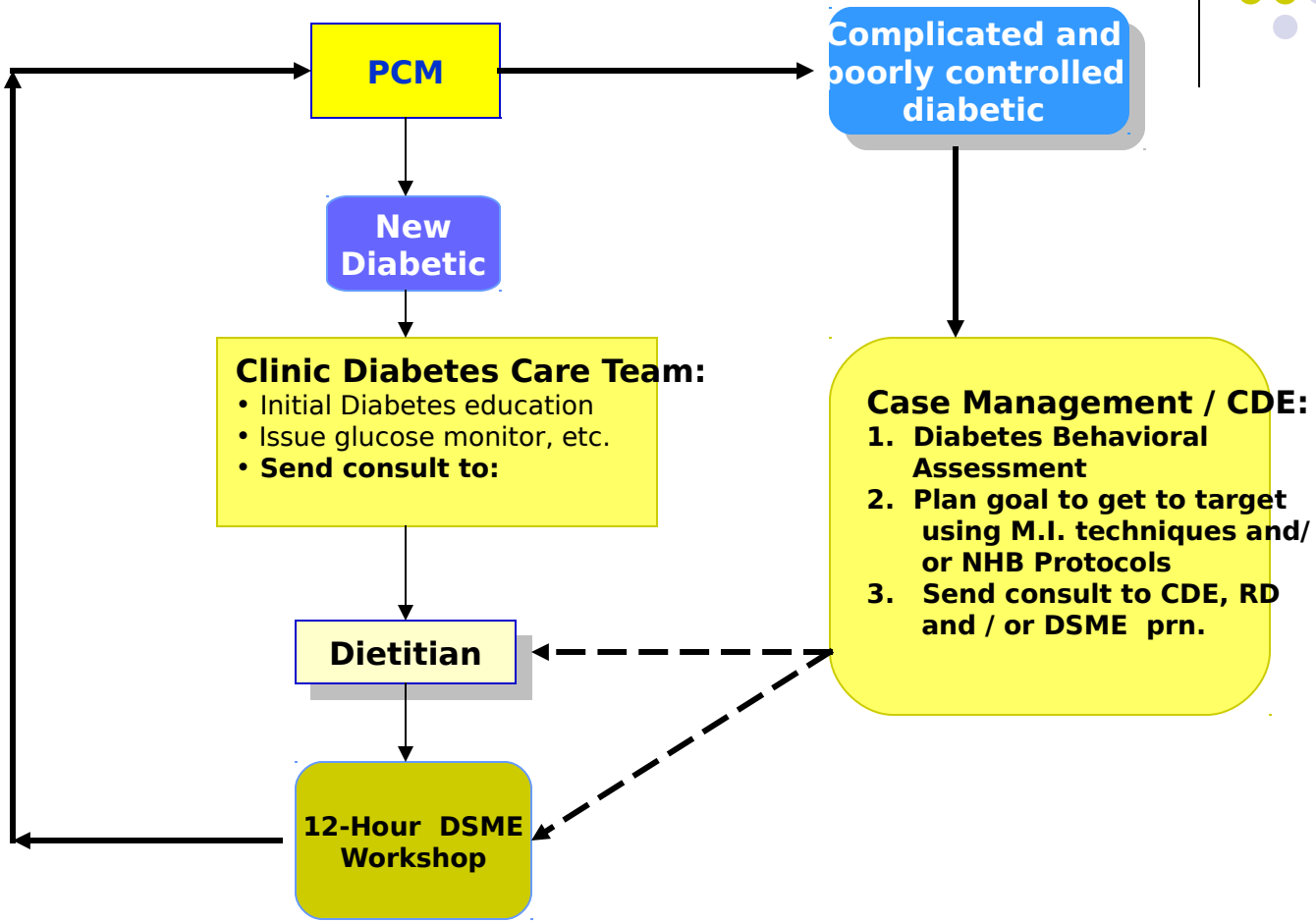
Health care delivery system process chang


PCM Care
Intensive Management/Case Management:
Leverage available resources to optimize health status and coordination of care
Care Management:
Enhance self-care skills; provide clinical management using care paths and protocols
Self-Care Support:
Routine care with decision-support technology and programs to assist members in developing/improving self-care skills

NH Bremerton's Previous Model (Carved-Out)



NH Bremerton's Current Model (Carved-In)


PCM
Complicated and poorly controlled diabetic
New Diabetic
Clinic Diabetes Care Team:
• Initial Diabetes education
• Issue glucose monitor, etc.
• Send consult to:
Case Management / CDE:
1. Diabetes Behavioral Assessment
2. Plan goal to get to target using M.I. techniques and/ or NHB Protocols
3. Send consult to CDE, RD and / or DSME prn.
Dietitian
12-Hour DSME Workshop

NH Bremerton Personal diabetic “Medical Home”

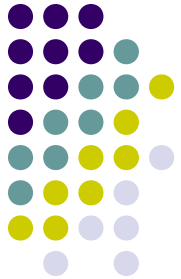
- A place for diabetic’s glucose testing supplies and for trouble-shooting.
- A place for downloading their glucose readings into a computer for data-based review by PCMs.
- AHLTA as EMR of choice.
- A standard Personal Diabetes Score Card.
- Primary care clinic access to the diabetes action list from the NHB Population Health Database.
- Patient and staff diabetes education resource room.
- A “voice-tree” telephone system.

NH Bremerton Patient Self-Management Education

- Offered Monthly
- Four weekly series of 3-hour workshops
- Curriculum based on ADA and AADE
- Education and counseling based on accomplishing the goals of the Health Beliefs Model and Stages of Change

RN Staff training on Pt. Education Process:

- Adult Learning Principles
- Health Belief Model
- Stages and Processes of Change
- Motivational Interviewing techniques

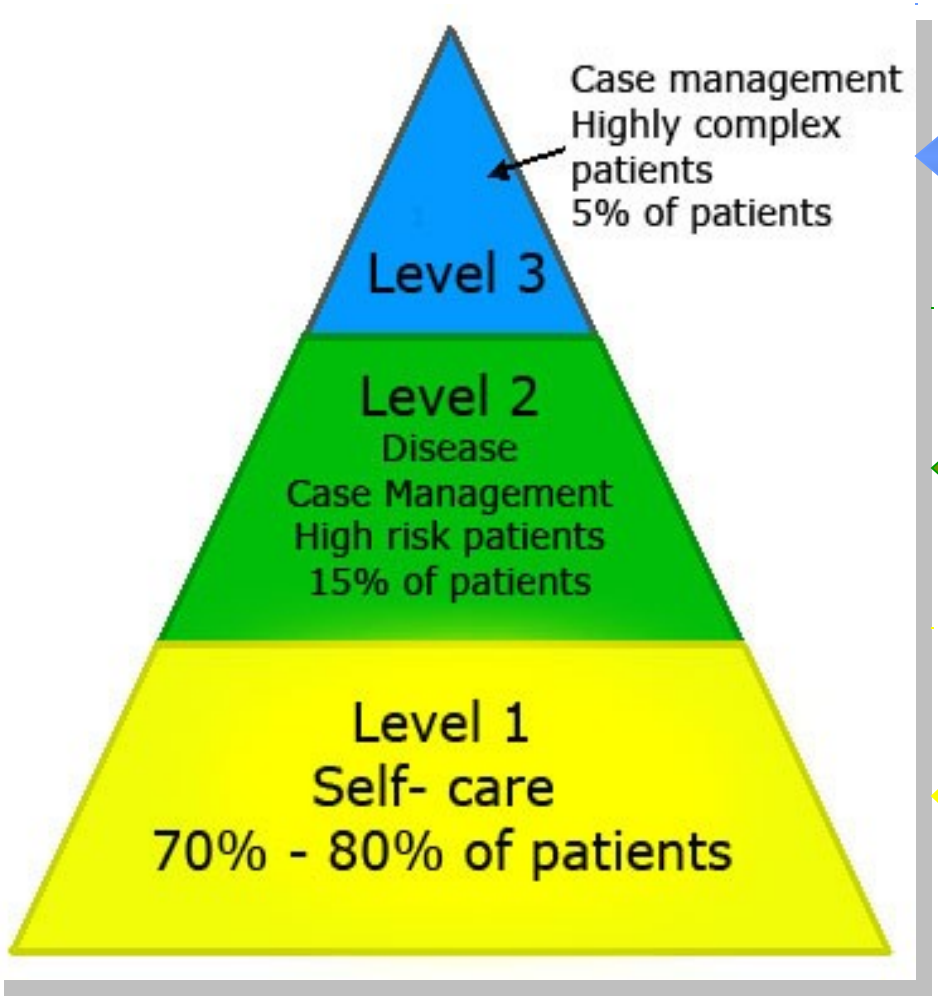


RN Staff Education on Diabetes / Management

I. **Pre-diabetes and Diabetes**:

- **Natural History of Diabetes**
- **Metabolic Syndrome**
- **Stage Diabetes Management:**
  - a. Oral Monotherapy stage
  - b. Combined oral meds therapy stage
  - c. Combined oral meds + Long-acting insulin/+ Exenatide stage
  - d. Long-acting + Rapid-acting insulin + Amylin stage
- **Naval Hospital Bremerton Titrate to Target protocols**
- **Use of different glucose monitors and trouble-shooting**
- **Basic Diabetes Education for Newly Diagnosed Diabetics**
- **Seven Diabetics Self-Care behavioral goals by AADE**

An Interdisciplinary team approach to diabetes management



Case Management

Health Promotion

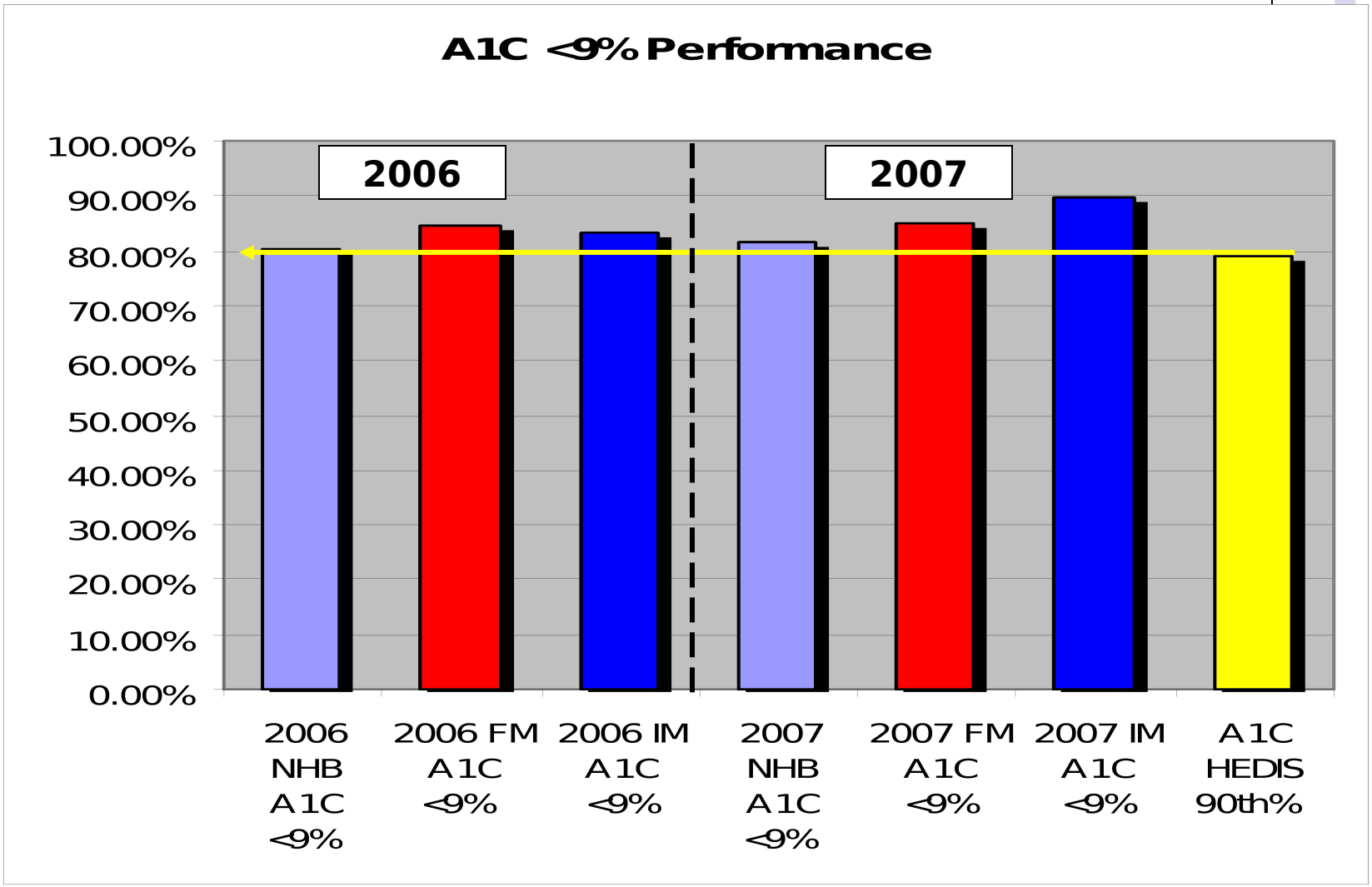
Case Management

Health Promotion

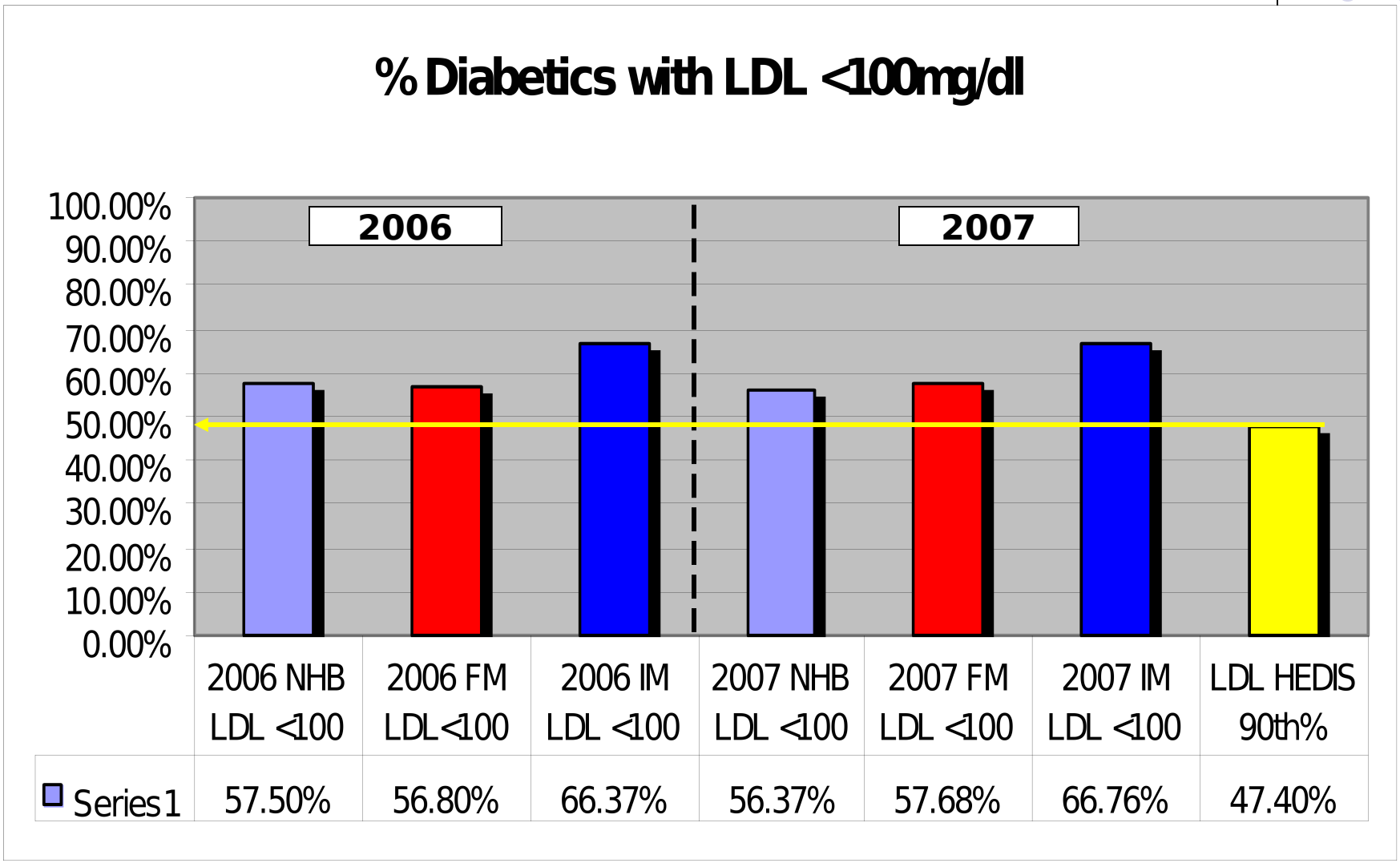
Primary Care Staff

Health Promotion

Program Evaluation based on BUMED Metrics



Program Evaluation based on BUMED Metrics



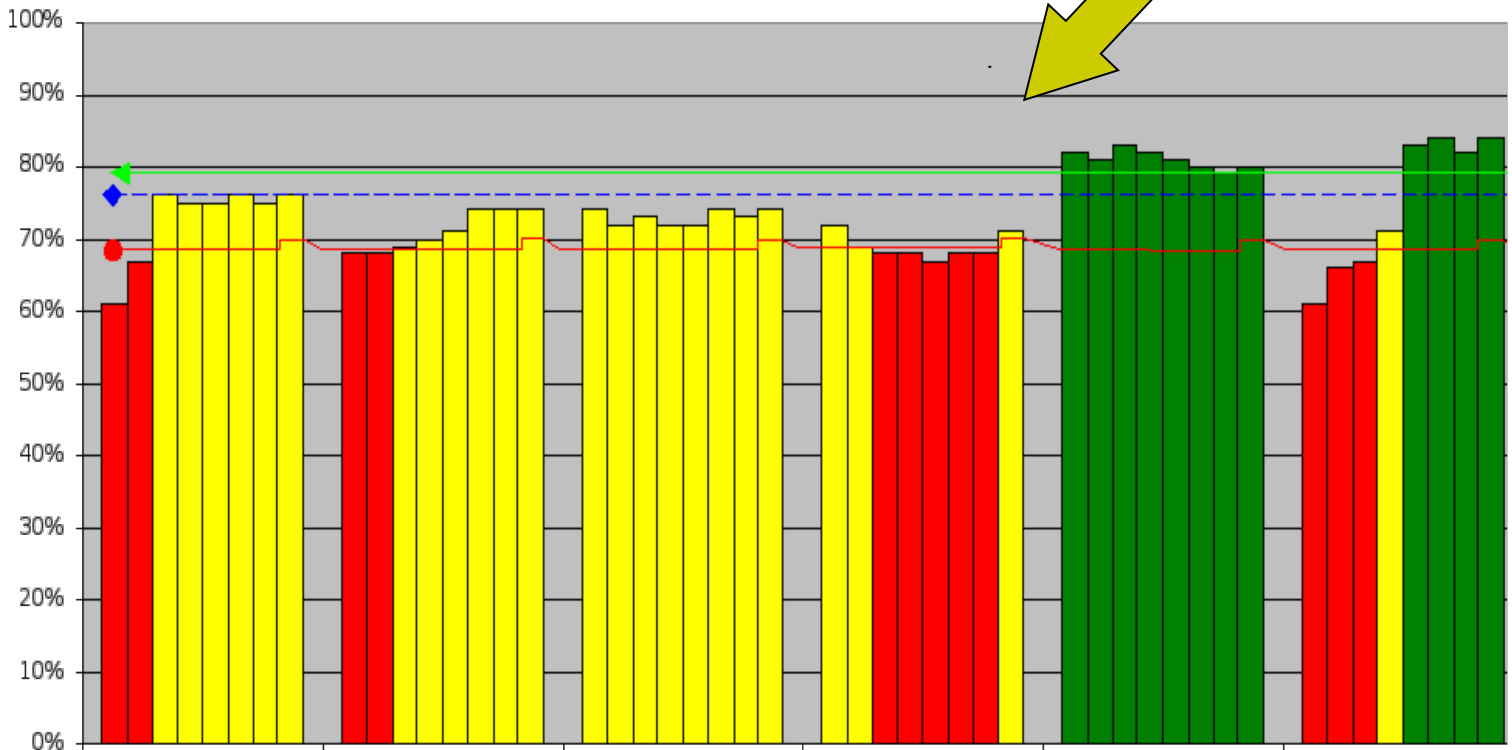
	2006 NHB LDL <100	2006 FM LDL<100	2006 IM LDL <100	2007 NHB LDL <100	2007 FM LDL <100	2007 IM LDL <100	LDL HEDIS 90th%
Series1	57.50%	56.80%	66.37%	56.37%	57.68%	66.76%	47.40%

Financial implication of the clinical outcomes of diabetes disease management program

Impact of Naval Hospital Bremerton's Diabetes Disease Management Program

EFFICACY - Teaching Hospitals
Continuously Enrolled Diabetic A1C ≤9.0
First Quarter FY 05 to Fourth Quarter FY 06

- >HEDIS 90th Percentile **79%** (no change)
- =HEDIS between 50th to 90th Percentile
- ≤HEDIS 50th Percentile **69%** (4th qtr minor change to **70%**)
- =Navy Avg. **76.2%**



	NH Jacksonville n ≈ 1736	NH Pensacola n ≈ 1523	NH Camp Lejeune n ≈ 905	NH Camp Pendleton n ≈ 1404	NH Bremerton n ≈ 1177	NH Okinawa n ≈ 44
1st Qtr 05	61%	68%	74%	72%	82%	61%
2nd Qtr 05	67%	68%	72%	69%	81%	66%
3rd Qtr 05	76%	69%	73%	68%	83%	67%
4th Qtr 05	75%	70%	72%	68%	82%	71%
1st Qtr 06	75%	71%	72%	67%	81%	83%

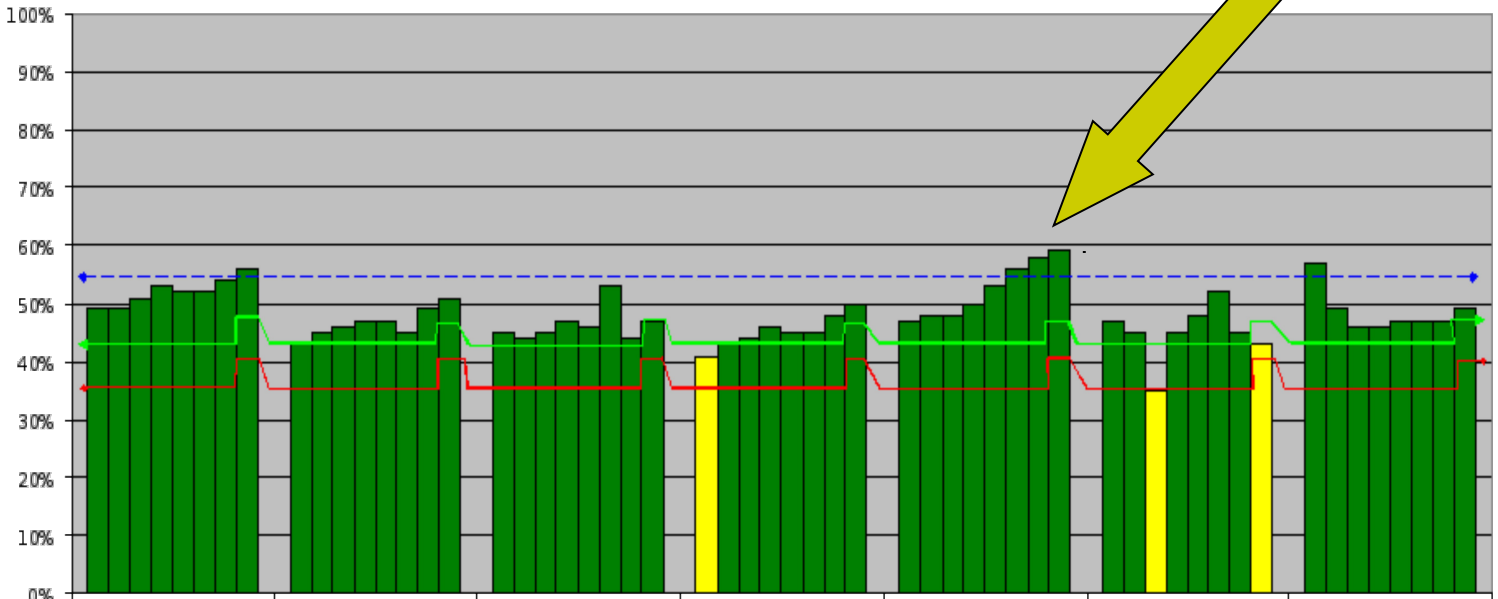
Source: Population Health Navigator

Title 10 USC 1102

Impact of Naval Hospital Bremerton's Diabetes Disease Management Program

EFFICACY - Teaching Hospitals
Continuously Enrolled Diabetic LDL <100
First Quarter FY 05 to Fourth Quarter FY 06

- >HEDIS 90th Percentile
  1st qtr 05 – 3rd qtr 06 **43%**
  4th qtr changed **47%**
- =HEDIS between 50th to 90th Percentile
- ≤HEDIS 50th Percentile
  1st qtr 05 – 3rd qtr 06 **35%**
  4th qtr 06 changed **40%**
- =Navy Avg. **54.7%**



	NH Jacksonville n≈1736	NH Pensacola n≈1523	NH Camp Lejeune n≈905	NH Camp Pendleton n≈1404	NH Bremerton n≈1177	NH Okinawa n≈44	NHC Great Lakes n≈460
1st Qtr 05	49%	43%	45%	41%	47%	47%	57%
2nd Qtr 05	49%	45%	44%	43%	48%	45%	49%
3rd Qtr 05	51%	46%	45%	44%	48%	35%	46%
4th Qtr 05	53%	47%	47%	46%	50%	45%	46%
1st Qtr 06	52%	47%	46%	45%	53%	48%	47%
2nd Qtr 06	52%	45%	53%	45%	56%	52%	47%
3rd Qtr 06	54%	49%	44%	48%	58%	45%	47%
4th Qtr 06	56%	51%	47%	50%	59%	43%	49%

Source: Population Health Navigator

MHS Calculation for Outpatient Diabetes Care Cost

- ~$5k for diabetics with good control (A1C <9.0%).
- ~$10k for poorly controlled (A1C >9%).

n = 1295 diabetics

% with A1C <9%: 83.2%

83.2% X 1295 = 1074 x $5k = $5.4M

16.8% X 1295 = 218 X $10k = $2.2M

Total cost/yr: **$7.6M** X ***80% = $6.04million**

***80-20 rule:** Pareto Principle

80% of the cost comes from 20% of the poorly controlled diabetics.

Estimated Annual Savings: **$3.84M**